MSD

March 10, 1997

Ms. Liza I. Montalvo
Remedial Project Manager
Kentucky/Tennessee Section
U. S. EPA
Region IV
345 Courtland Street, N. E.
Atlanta, GA 30365

Re: Results of Air Quality Monitoring - FY97 First Quarter (FY97-1Q), (Event No. 16) Lees' Lane Superfund Site, Jefferson County, Kentucky Administrative Order on Consent, U. S. EPA Docket No. 91-32-C

Dear Ms. Montalvo:

In accordance with paragraph 11, under, Reporting Requirement, of the subject Consent Order and Attachment I, Operation and Maintenance Plan for Post-Removal Site Control at the Lees' Lane Landfill Site, Section 4.2, Air Quality Monitoring, attached for your information and files is one photocopy each of the following items, prepared by Radian Corporation, P. O. Box 13000, Research Triangle Park, North Carolina 27709, and received by MSD on March 7, 1997.

1. Radian Corporation letter, dated February 27, 1997, 2 pages.

2. Figure 1, Lees' Lane Landfill, Sampling Locations, 1 page.

3. Table 1, TO-14 Data Summary for Ambient Air Samples at the Lees' Lane Landfill, Sampling date: 09/24/96, 1 page.

4. Table 2, On-Site Meteorological Data, 09/24/96, 1 page.

5. Table 3, TO-14 Data Summary for Gas Monitoring Well Samples at Lee's Lane Landfill, Louisville, KY, Sampling Date: 09/24/96, 1 page.

Louisville and Jefferson County Metropolitan Sewer District
700 West Liberty Street Louisville, Kentucky 40203-1913 502-540-6000

Please advise if you have any questions concerning these sampling arrangements.

Sincerely,

Carl A. Neumayer
Director of Operations

CAN/dc
Lee'sair1q97

cc: Mr. Jeff Pratt, KNREPC,
Division of Waste Management
Mr. Rick Hogan, KNREPC
Division of Waste Management
G. R. Garner, Executive Director
File: WD-2 (Lees' Lane M & M Quarterly)

RADIAN INTERNATIONAL LLC

P.O. Box 13000
Research Triangle Park, NC 27709
(919) 461-1100
FAX (919) 461-1415

February 27, 1997

Mr. Dan Sammons
Chief Chemist
Louisville Metropolitan Sewer District
4522 Algonquin Parkway
Louisville, Kentucky 40211

Dear Dan:

Enclosed is the summary analytical report for the ambient and gas monitoring well samples collected at the Lee's Lane Landfill site on September 24, 1996.

A map of the site, labelled with the sample collection locations for your reference, is shown in Figure 1. Table 1 is a tabular summary for the ambient sample with the primary analytes required for submission to EPA. All primary analytes are at typical ambient levels.

The monitoring sites for this quarterly collection were chosen based on a combination of prevailing on-site meteorology and available sites in the adjacent residential neighborhood per the standard sampling protocol. It was cool and damp for most of the monitoring day with slight southwesterly breezes. Hourly readings of meteorological data including wind speed and direction were recorded at the site. The meteorological data is summarized in Table 2. The ambient samples were collected 3-5 feet above ground level. The ambient samples collected were integrated over a 7-8 hour collection period in Summa® canisters.

The methane analysis was performed by GC/FID on a separate analytical system prior to the TO-14 analysis at Radian's Austin Laboratory. The TO-14 analytical methodology using Gas Chromatography/Mass Spectrometry (GC/MS) was employed. Samples were handled with standard laboratory chain-of-custody procedures. Sample canisters and flow controllers were cleaned and blanked using Method TO-12 for total nonmethane hydrocarbons prior to field deployment. All ambient and gas well samples were successfully analyzed for methane and the TO-14 target analytes. All samples were diluted with VOC house nitrogen as per ambient SOP. At a later date, the lab found that this nitrogen source is contaminated with methane at approximately 1 ppmV. This value was subtracted from the final value. Otherwise, no analytical difficulties were experienced with the samples.

Table 3 is a tabular summary of the gas well samples with the primary analytes required for submission to EPA. Each set of gas monitoring wells was screened with field monitors (combustible gas meter, and PhotoTip). The laboratory determined methane results are consistent for all the ambient air and the gas monitoring wells samples. The average ambient level of methane measured was 0.97 ppmv, while the methane level measured in the gas wells

ranged from 0.82 to 2.09 ppmv. All field measurements from the Hnu, PhotoTip, and TMX were below the detection limit of each instrument. The laboratory determined methane values are higher than the field values due to the inherently greater analytical sensitivity. The laboratory measured methane results are consistent with results from the past sampling periods.

With the exception of the primary target analytes, very few TO-14 compounds were detected in either the ambient or gas well samples. Benzene, toluene, xylene and methylene chloride were detected in all 12 field samples. A higher methylene chloride concentration (1.02 ppmv) was detected in the on-site duplicate (AS-A2). All other ambient and well samples were at normal levels for methylene chloride and target compounds for the program.

Radian appreciates the opportunity to assist your staff with this project. Please advise me at (919) 461-1242 if you have any questions.

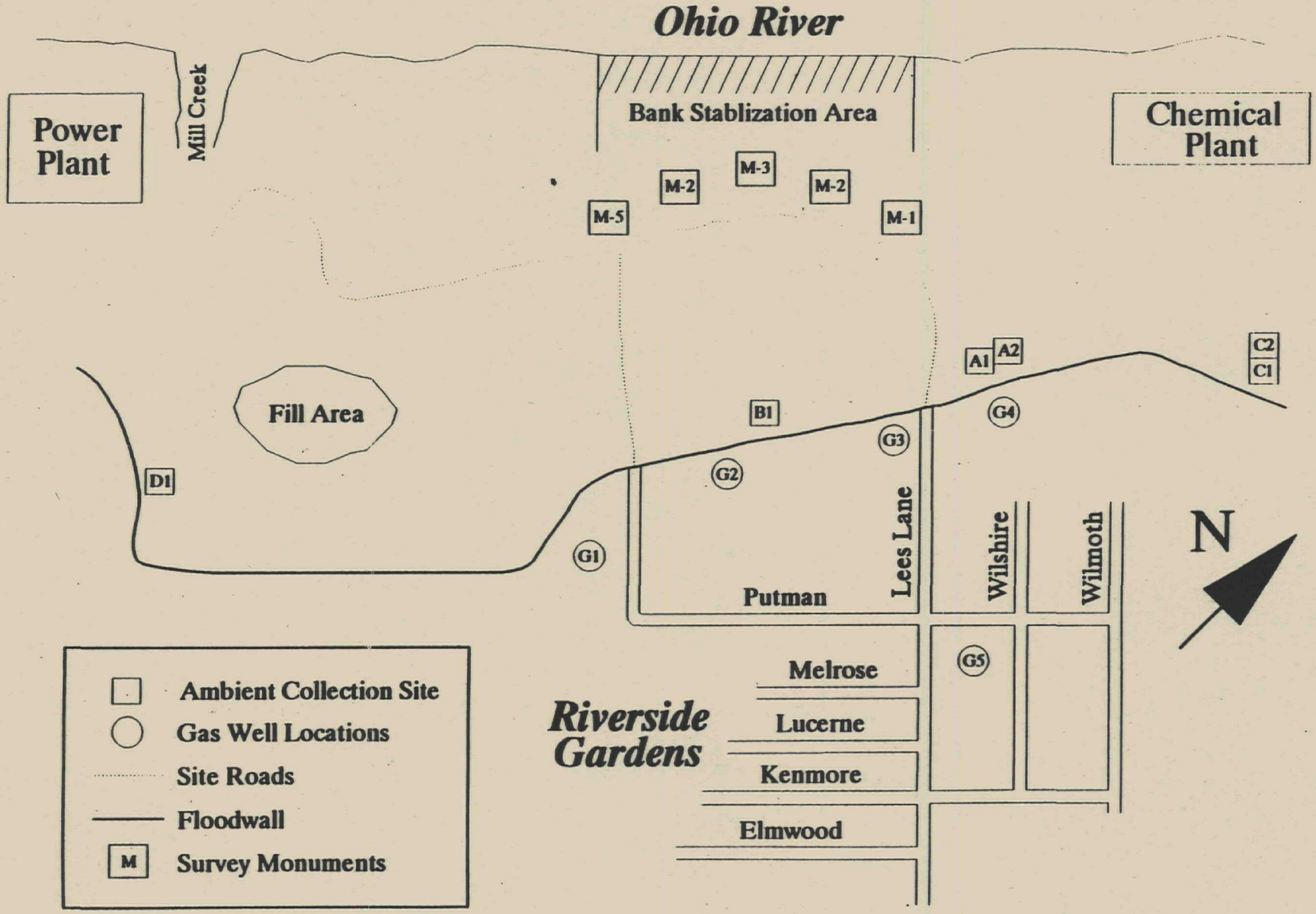
Sincerely,

Robert F. Jongleux
Senior Scientist/Project Manager

LMSD/Task 17

Attachments

cc: Mike McCoy, Radian/RTP
Project File/Task 17



Not to scale.

Figure 1. Lees Lane Landfill Sampling Locations

TABLE 1

TO-14 DATA SUMMARY FOR AMBIENT AIR SAMPLES AT THE LEES'S LANE LANDFILL LOUISVILLE, KENTUCKY

SAMPLING DATE: 09/24/96

Sample ID	AS-U1	AS-A1	AS-A2	AS-R1	AS-R2	AS-R3
Canister ID	A193109	A103103	A130659	A193099	A193105	A193107
Location	Upwind	Downwind	Downwind	Residential	Residential	Residential
Dilution Factor	0.3989	0.3518	0.3742	0.3674	0.3953	0.3959
Compound (conc. in ppbv)						
Benzene	0.18	0.14	0.13	0.15	0.15	0.16
Toluene	0.31	0.15	0.17	0.21	0.24	0.15
Xylene (total)	0.15	0.05	0.08	0.10	0.11	0.08
Methylene Chloride	0.21	0.36	1.02	0.30	0.08	0.28
Vinyl Chloride	0.03	ND	ND	ND	ND	ND
Methane (ppm)	0.89	1.14	0.99	1.04	0.90	0.85

*All samples were diluted with VOC house nitrogen as per ambient SOP.
At a later date, the lab found that this nitrogen source is contaminated with methane at approximately 1 ppmV.
This 1 ppmV is subtracted from the reported value.

TABLE 2

ON-SITE METEOROLOGICAL DATA
September 24, 1996

Time	Barometric Pressure (in Hg)	Temperature (F)	Dewpoint (F)	Wind Direction (from)	Wind Speed (mph)	Observations
0800	30.66	66	62	190	3	Cloudy
0900	30.71	66	62	200	2	Cloudy
1000	30.73	66	62	230	1	Cloudy
1100	30.75	66	62	260	3	Drizzle
1200	30.73	69	60	230	2	Drizzle
1300	30.76	69	60	210	3	Cloudy
1400	30.78	69	57	210	10	Cloudy
1500	30.77	69	59	240	1	Partly Cloudy
1600	30.77	69	59	240	2	Partly Cloudy
1700	30.77	68	57	250	2	Partly Cloudy

TABLE 3

TO-14 DATA SUMMARY FOR GAS MONITORING WELL SAMPLES AT THE LEE'S LANE LANDFILL LOUISVILLE, KENTUCKY

SAMPLING DATE: 09/24/96

Sample Id[a]	AS-G1L	AS-G2L	AS-G3L	AS-G4L	AS-G5L	AS-G5R	FBL
Canister ID	A193106	A193112	A193221	A193110	A193104	A193100	A130657
Dilution Factor	0.3959	0.3992	0.4120	0.3867	0.3837	0.3907	1
Orifice	D-104	D-3	B-1	D-8	D-6	D-33	NA
Compound (conc. in ppbv)							
Benzene	0.06	0.13	0.12	0.13	0.24	0.04	ND
Toluene	0.25	0.55	0.33	0.42	0.58	0.37	0.01
Xylene (total)	0.07	0.13	0.13	0.16	0.20	0.10	ND
Methylene Chloride	0.01	0.06	0.05	0.05	0.06	0.02	ND
Vinyl Chloride	ND	ND	ND	ND	0.47	ND	ND
Methane (ppm)	1.80	0.87	0.89	0.88	0.82	2.09	2.01

[a]Wells have been painted, covering shallow and deep designations, therefore, right (R) and left (L) designations used for identification.

Note: Less than values indicate compound was at or below the detection limit